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ABSTRACT

This study examines the role of gender and birth status in the teaching styles of 19 mothers. The infants studied included 3 female and 4 male full-terms and 4 female and 8 male preterms. Each mother-infant dyad was videotaped during three teaching situations: book reading, an unstructured task, and a structured task. Behavior was coded according to a revised version of the Farran Parent-Caregiver Involvement Scale. In addition, psychosocial and cognitive development and mother-child synchrony measures were taken at 5, 13, and 20 months. Analysis of misclassification findings suggests that misclassified preterm males tend to be more similar to full-term males and females than to other preterms. This situation indicates that mothers may organize their teaching styles with their premature male toddlers, mostly by gender. Mothers of full-term males were more directive than mothers of any other group. On every interactive dimension, males received more and better involvement than females. Quality of interaction seemed to be less influenced by developmental level than by gender. (RJC)

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# Role of Gender and Birth Status in Mothers-as-Teachers during the Infancy Period

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Infancy is characterized by, among many things, its dynamic infant-caregiver system. Because of the mother-child dynamic the infancy period can be described as a special case of social cognition (Wertsch, 1985; Vygotsky, 1987; Feuerstien, 1985, Klein, 1984). In such a system, the quality of mother as teacher is an important consideration. Mothers of handicapped and at-risk infants have different interactive styles with their children than do mothers of healthy infants (Dunst, 1980; Mahoney, 1986; Mervis, 1984). Likewise mothers interact differently with their male vs female infants. There has been some debate about whether particular behavioral differences between genders which have been observed during infancy are produced by different parental reactions or by differential biological maturation (Lewis, 1975; Birns, 1976). Differential parents' behaviors toward their children (Reingold & Cook, 1975; Block, 1978) and the quality of parent-child interactions have been shown to be related to child's gender (Caldera et al., 1986; Will et al, 1977). The present study was designed to examine mothers' style as a teacher with full term infants and at risk infants as well as with males and females. Since preterms are considered the prototype of at-risk infants (Parmalee, 1981), they were selected as the at-risk population. Specific questions for the study were:

(1)Do mothers of full term infants assume a different style of teaching for males & females?
(2)Do mothers of preterm infants assume a different style of teaching for males & females?
(3)Do mothers of male preterms assume a style of teaching which can differentiate them from mothers of full term male infants?
(4)Do mothers of female preterms assume a style of teaching which can differentiate them from mothers of full term female infants?
(5)Does birth status (preterm vs full term) influence mothers' teaching styles in the same way for males and females ?

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## Methodology

Subjects. Subjects have been drawn from a larger population in a preterm vs full term longitudinal study. This sample includes children who have reached the age of 20 months. Corrected age is used for preterms. Nineteen mother-infant dyads participated in this study. Seven (3 females, 4 males) fullterms, twelve (4 female, 8 male) preterms.

Instrumentation. The behavior of mother-infant dyads was coded according to a revised version of the Farran Parent-Caregiver Involvement Scale. (Farran et al., 1986) The scale allows for judgment of the amount, quality, and appropriateness of the mothers' behavior in terms of: responsivity, play, verbal involvement, physical involvement, teaching

behavior, goal setting, control, directiveness, negative and positive statements. Scores were assigned by the consensus of two independent raters.

Additional measures. Additional measures include SES, degree of prematurity, and measures of psychological development, mother-child synchrony (attachment-separation-individuation scale, Foley & Hobin, 1981) and cognitive development (Uzgiriz & Hunt, 1975).

Procedure. Each mother-infant dyad was videotaped during 3 teaching situations: book reading, an unstructured task, and a structured task. For book reading mothers were asked to read Dr. Seuss's Hop on Pop with their child. The unstructured task consisted of mothers playing with their infants with a felt board and colored and shaped pieces (red, green, circles, squares, and triangles). The structured task was mothers teaching their infants to sort blocks. The mothers were given a set of 16 blocks: 4 large blue, 4 large red, 4 small red, and 4 small blue. They were then asked to help their infants to learn how to sort the blocks first by color, and than by size into the two containers. Mothers were asked to use the book first, then the felt board, and finally the blocks. They were told however that they could decide upon the order and the time allotted to each task based upon the needs of their child. Psychosocial and cognitive development as well as mother-child synchrony measures were taken at 5, 13 and 20 months. Each measure was taken in the home.

## Results

After an initial Discriminant function analysis (DFA) the 3 most discriminating variables were selected to perform an additional DFA. Based on these three of mother as teacher scores the second DFA produced 3 functions (chi=.80(1), P=.073) which classified PM, FM, PF, FF with 89.47% (Wilkes' Lamda-.071, P=.000) accuracy (correction using Cohen's Kappa=65%). The variables are: amount, play and quality of book reading (ABPLB) (Wilks' Lamda=.456, P=.008); amount, quality and teaching behavior of book reading (ABTBA) (Wilks' Lamda=.14, P=.0001); amount of directives and control on structured task (ALDC) (Wilkes' Lamda.14=.071, P=.000).

An examination of the means indicate that whether they are fullterm or preterm, males receive a greater amount, quality and play on book reading. On ABTBA full term males and preterm females receive the highest amount and quality of teaching behavior. Preterm males and full term females receive a similar amount of directives and control on blocks. Overall FM received a higher number of amount, play and quality on book reading, and a higher amount of directives and control on blocks. Full term females received the least of everything across tasks.

Analysis of classification results revealed that 75% of the PM were accurately classified. Those who were misclassified were predicted to be FM (12.5%) and FF (12.5%), was were missclassified as PF. Full term males, preterm females and full term females were accurately classified at 100 %.

Discussion

Analysis of misclassification findings suggest that misclassified preterm males tend to be more similar to full term males and fullterm females than to other preterms. The majority of the cases (75%) remained within premature male group with 12.5% crossing over to the full term male and 12.5% to the full term female group. Thus, it seems that mother's teaching style to their premature male toddlers seems organized mostly by gender (87.5% classifies within the male group). This is supported by the fact that DFA based on mother-as teacher variables discriminates among males and females regardless of their birth status,with 100% accuracy.

Overall mothers of fullterm males were more directive that mothers of any other group. This should be looked at closely since there is strong evidence that nondirective and non authoritarian parenting in the preschool years is predictive of competence in the school years in non risk populations (Hess & Shipman, 1985; Price, 1977).

Gender analysis reveals that not only are male children played within a higher quality fashion, taught more and physically interacted within a higher quality fashion, the trend is, that on every interactive dimension, males receive more and better involvement than females. Thus it is suggested that the 4 groups receive a different quality of interaction from their mothers, with FM receiving overall what is presented in the literature as better quality interaction, full term females have less beneficial interaction. Quality of interaction seems influenced less by actual developmental level and, therefore competence, than by gender per se. The suggestion of a direct relationship between mothers' willingness to allow her child to explore, initiate, and make the errors necessary for learning should perhaps be examined to be expanded to include gender as an addition to mothers' selection of teaching style (Mervis, 1984; Bruner, 1985).

Classification Results

| Actual Group | Predicted group membership | | | |
|---|---|---|---|---|
| | 1-PM | 2-FM | 3-PF | 4-FF |
| 1. Preterm males | 75% | 12.5% | 0.0% | 12.5% |
| 2. Full term males | 0.0% | 100% | 0.0% | 0.0% |
| 3. Preterm females | 0.0% | 0.0% | 100.00% | 0.0% |
| 4. Full term females | 0.0% | 0.0% | 0.0% | 100% |

| | ABPLB | ABTBA | ALDC |
|---|---|---|---|
| Preterm males | 4.12 | 3.37 | 1.75 |
| | (1.88) | (1.68) | (2.05) |
| Full term males | 5.5 | 5.25 | 5.75 |
| | (1.0) | (.95) | (0.5) |
| Preterm females | 2.75 | 4.5 | 1.5 |
| | (2.75) | (1.73) | (2.3) |
| Full term females | 0.00 | 0.00 | 0.33 |
| | (0.00) | (0.00) | (0.5) |

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Abstract

The role of gender and birth status in mothers' teaching style with their infants has important implications for the child's learning, and is predictive of the child's later school-related success. This study investigates mothers' teaching style in relation to child's birth status and gender. Results indicate that mothers' teaching and interactive styles are different for each of the 4 groups, suggesting that for males, teaching style is organized by gender, while for females style is organized by birth status.